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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/422,803	10/22/1999	EDWIN SOUTHERN	00263/PP/IR/	6011

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WASHINGTON, DC 20006

EXAMINER

BRUSCA, JOHN S

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/422,803

Applicant(s)

SOUTHERN

Examiner

John S. Brusca

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 17-21 and 23-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-19, 21, 23, 26-30 and 33-40 is/are rejected.
- 7) ☒ Claim(s) 20, 24, 25, 31 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. PCT/GB89/00460.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/8/05, 12/20/05</u> | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This application has been reassigned to a new examiner.
2. Due to new grounds of rejection not necessitated by the applicant's amendments this is a non-final rejection.

### ***Information Disclosure Statement***

3. Many references in the Information Disclosure Statements filed 08 December 2005 and 20 December 2005 have not been considered because the references are not publications.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

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with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would be obvious over, the reference claim(s). see, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

6. Claims 17-19, 21, 23, 26-30, and 33-40 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22-48 of copending Application No. 10/115077. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims are either species of the instant claims or have only minor differences. Regarding the limitation of microporous glass on instant claim 26, the species is disclosed in page 10 of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 112***

7. The rejection of claims 36 and 40 for lack of written description under 35 U.S.C. § 112, first paragraph in the Office action mailed 13 July 2005 is withdrawn in view of the amendment filed 14 November 2005

***Claim Rejections - 35 USC § 102***

8. The rejection of claims 17, 23, 33, 35-37, 39, and 40 over Stavrianopoulos (U.S. Patent No. 4,994,373) in the Office action mailed 13 July 2005 is withdrawn in view of the amendment filed 14 November 2005.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 17, 21, 33, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stavrianopoulos et al. in view of Molecular Biosystems Inc. (WO 85/01050, reference AF in the Information Disclosure Statement filed 08 December 2005).

The claims are drawn to arrays of oligonucleotides comprising different known oligonucleotides at different positions. The oligonucleotide is covalently linked to the support of the array.

Stavrianopoulos et al. shows in column 1, lines 29-30, and column 5 an array of oligonucleotides, with a substrate that may be plastic or glass. Stavrianopoulos et al. shows in

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column 8, lines 40-45 that various (meaning different) polynucleotide samples may be present in the array. Stavrianopoulos et al. does not show covalent linkage of oligonucleotides to supports.

Molecular Biosystems Inc. shows covalent linkages of oligonucleotides to a solid support and use of such linked oligonucleotides for hybridization assays in pages 8-9, and 34-37.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the hybridization assay of Stavrianopoulos et al. by use of the covalent linkage of Molecular Biosystems Inc. because Molecular Biosystems Inc. shows that such covalent linkages are useful to tether hybridized polynucleotide duplexes for purification of the hybridized duplex in hybridization assays.

11. Claims 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stavrianopoulos et al. in view of Molecular Biosystems Inc. as applied to claims 17, 21, 33, 35, and 36 above, and further in view of Cooke et al.

Stavrianopoulos et al. in view of Molecular Biosystems Inc. as applied to claims 17, 21, 33, 35, and 36 above shows use of conventional microtiter plates to contain the samples in columns 12, lines 20-24 of Stavrianopoulos et al. Stavrianopoulos et al. does not show the number of wells that exist in conventional microtiter plates.

Cooke et al. shows microtiter plates that differ from the conventional plates by virtue of being made from disposable plastic. Cooke et al. shows in figure 1 a microtiter plate with an 8x12 matrix of wells for a total of 96 wells.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Stavrianopoulos et al. in view of Molecular

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Biosystems Inc. as applied to claims 17, 21, 33, 35, and 36 above by use of the 96 well microtiter plate of Cooke et al. for the purpose of analyzing up to 96 samples in one array.

12. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stavrianopoulos et al. in view of Molecular Biosystems Inc. as applied to claims 17, 21, 33, 35, and 36 above, and further in view of Suggs et al.

Stavrianopoulos et al. in view of Molecular Biosystems Inc. as applied to claims 17, 21, 33, 35, and 36 above does not show use of samples on an array of between 8 and 20 nucleotides in length.

Suggs et al. shows in the abstract, methods section on page 6613, and Table 1 the synthesis and use of oligonucleotide probes that are 15 nucleotides in length. Suggs et al. shows in figures 1 and 2 that such probes may be used to hybridize specifically to a complementary sequence.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Stavrianopoulos et al. in view of Molecular Biosystems Inc. as applied to claims 17, 21, 33, 35, and 36 above by use of the 15mer probes of Suggs et al. because Suggs et al. shows that oligonucleotides of that length are long enough to allow for specific hybridization and a functional equivalent to longer oligonucleotides, and further obvious because shorter oligonucleotides allow for reduced labor and cost for synthesis.

#### ***Response to Arguments***

13. Applicant's arguments filed 14 November 2005 regarding the prior art rejections have been fully considered but they are not persuasive. Those rejections of claims not reiterated in this Office action have been withdrawn. New grounds of rejection have been made over some claims.

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The applicants argue that Stavrianopoulos et al. uses the arrays for hybridization to probes, rather than using arrays of probes for hybridization to unknown samples. The intended use of the composition of Stavrianopoulos et al. is not relevant because Stavrianopoulos et al shows the claimed composition or makes obvious the claimed compositions in combination with other references as detailed above. Stavrianopoulos et al. shows use of known (and therefore predetermined) sequences on arrays. The applicants further argue that the samples of Stavrianopoulos et al are on different wells and are therefore on different surfaces, however a microtiter dish is a single surface comprising multiple depressions.

***Allowable Subject Matter***

14. Claims 20, 24, 25, 31, 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

15. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete



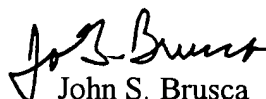
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service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center at (800) 786-9199. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Brusca whose telephone number is 571 272-0714. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, PhD. can be reached on 571 272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 5 February 2006  
John S. Brusca  
Primary Examiner  
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jsb